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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Norbert Grunenberg

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PATENT CENTRAL LLC
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EXAMINER

KERNS, KEVIN P

ART UNIT

PAPER NUMBER

1793

NOTIFICATION DATE

DELIVERY MODE

07/09/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

pendorf@patentcentral.com

Office Action Summary	Application No. 10/521,938	Applicant(s) GRUNENBERG ET AL.	
	Examiner Kevin P. Kerns	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 April 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☒ Claim(s) 7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 January 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

In this instance, "The invention relates to a" (which is a phrase that can be implied) should be replaced with "A". In addition, the legal terms "consisting of", "Said", "comprises" and "comprise" are present throughout the abstract.

Claim Objections

2. Claim 7 is objected to because of the following informalities: in the 1st line, replace "the" with "a" before "high-pressure" to obtain proper antecedent basis. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 1793

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Murakami et al. (US 5,474,040).

Murakami et al. disclose a cast cylinder block with cylinder crankcase for an internal combustion engine (see Figures 2-4 and 6-8), in which the cylinder crankcase includes a continuous row of four cylinder barrels (bore wall structures 2) cast into the crankcase, such that the barrels 2 comprise a casting within the crankcase and at least one water jacket 15 (Figures 3, 6, and 7) that further include coolant channels (13,14) arranged through a web region (common wall portion 5) of the crankcase, such that the at least one water jacket 15 is at least partially closed via lower bridge (11,11') with respect to a side of the cylinder crankcase that faces a cylinder head, or the upper portions of Figures 3, 6, and 7 -- and as defined in Figure 2 of the application as the "cylinder head side 18" (abstract; column 1, lines 57-67; column 2, lines 1-15; column 3, lines 35-67; column 4, lines 1-31; column 5, lines 42-58; and Figure 2-4 and 6-8).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murakami et al. (US 5,474,040) in view of Fischer et al. (US 6,354,259).

Murakami et al. disclose the features of above claims 1 and 2. Murakami et al. do not specifically disclose the use of gray cast iron and hypereutectic aluminum-silicon alloy in casting the row of cylinder barrel inserts or liners, as well as the thermally sprayed layer on the cylinder barrels.

However, Fischer et al. disclose a method of manufacturing a cylinder liner, in which the method includes providing gray cast iron and hypereutectic aluminum-silicon alloys in die casting of cylinder liners, and having properties of wear and frictional load resistance, by thermally spraying of layers 2-5 (Figure), for the purpose of economically coating and improving the wear resistance (abstract; column 1, lines 33-48; column 2, lines 8-14 and 19-67; column 3, line 1 through column 4, line 8; and Figure).

It would have been obvious to one of ordinary skill in the art at the time the applicants' invention was made to modify the features of the cast cylinder block with cylinder crankcase for an internal combustion engine, as disclosed by Murakami et al., by using the gray cast iron and hypereutectic aluminum-silicon alloy along with the thermally sprayed layer on the cylinder barrels, as taught by Fischer et al., in order to obtain economical coating and to improve the wear resistance (Fischer et al.; column 1, lines 40-48; column 3, lines 58-67; and column 4, lines 1-8).

8. Claims 7 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murakami et al. (US 5,474,040) in view of Baltz et al. (US 6,298,899).

Murakami et al. disclose the features of above claims 1 and 2. Murakami et al. do not specifically disclose the use of a lost core or a water jacket core in casting the row of cylinder barrel inserts or liners.

However, Baltz et al. disclose a method of making a water jacket core assembly, in which the method includes providing a lost core assembly 10 including pre-formed bridge cores 14 at web regions between the cylinder barrels or cylinder bores 16 in casting the row of cylinder barrels, for the purpose of effectively producing a double-walled cylinder insert containing a water jacket and having accurate cooling channels or passages at the thinner web regions between the cylinder barrels (abstract; column 3, lines 15-27 and 47-67; column 4, line 1 through column 6, line 5; and Figures 1-3).

It would have been obvious to one of ordinary skill in the art at the time the applicants' invention was made to modify the features of the cast cylinder block with

cylinder crankcase for an internal combustion engine, as disclosed by Murakami et al., by using the lost core or water jacket core assembly in casting the row of cylinder barrels, as taught by Baltz et al., in order to effectively produce a double-walled cylinder insert containing a water jacket with accurate cooling channels or passages at the thinner web regions between the cylinder barrels (Baltz et al.; abstract; column 5, lines 39-56; and column 6, lines 1-5).

9. Claims 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murakami et al. (US 5,474,040) in view of Baltz et al. (US 6,298,899), and further in view of Fischer et al. (US 6,354,259).

Murakami et al. (in view of Baltz et al.) disclose and/or suggest the features of above claim 7. Neither Murakami et al. nor Baltz et al. specifically discloses the use of gray cast iron and hypereutectic aluminum-silicon alloy in casting the row of cylinder barrel inserts or liners, as well as the thermally sprayed layer on the cylinder barrels.

However, Fischer et al. disclose a method of manufacturing a cylinder liner, in which the method includes providing gray cast iron and hypereutectic aluminum-silicon alloys in die casting of cylinder liners, and having properties of wear and frictional load resistance, by thermally spraying of layers 2-5 (Figure), for the purpose of economically coating and improving the wear resistance (abstract; column 1, lines 33-48; column 2, lines 8-14 and 19-67; column 3, line 1 through column 4, line 8; and Figure).

It would have been obvious to one of ordinary skill in the art at the time the applicants' invention was made to modify the features of the cast cylinder block with

cylinder crankcase for an internal combustion engine, as disclosed by Murakami et al., by using the lost core or water jacket core assembly in casting the row of cylinder barrels, as taught by Baltz et al., in order to effectively produce a double-walled cylinder insert containing a water jacket with accurate cooling channels or passages at the thinner web regions between the cylinder barrels, and by further using the gray cast iron and hypereutectic aluminum-silicon alloy along with the thermally sprayed layer on the cylinder barrels, as taught by Fischer et al., in order to obtain economical coating and to improve the wear resistance (Fischer et al.; column 1, lines 40-48; column 3, lines 58-67; and column 4, lines 1-8).

Response to Arguments

10. The examiner acknowledges the applicants' amendment received by the USPTO on April 21, 2008. The amendments overcome the prior objections to the specification and claims. However, upon review, new objections to the abstract and claim 7 are raised in above sections 1 and 2. The amendments and arguments are persuasive in overcoming the prior 35 USC 102(b) and 35 USC 103(a) rejections. Claims 1-12 remain under consideration in the application.

11. Applicants' arguments with respect to claims 1-12 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Kevin P. Kerns whose telephone number is (571)272-1178. The examiner can normally be reached on Monday-Friday from 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jessica Ward can be reached on (571) 272-1223. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kevin P. Kerns
Primary Examiner
Art Unit 1793

/Kevin P. Kerns/
Primary Examiner, Art Unit 1793
June 30, 2008